By Express Mail #EV543421914US

Amendments to the Specification:

Page 8, please amend the paragraph bridging pages 8 and 9 as follows:

Referring first to Fig. 2, an automated measurement system in which the invention can be applied is generally designated 10 and includes an inspection chamber 12 and a loadlock chamber 14. Inspection chamber 12 has a transfer portion 16 and an inspection or measurement portion 18 having a pair of measurement sites 20. A measurement device (not shown) performs a measurement or inspection of the wafers when the wafers are situated at the measurement sites 20. Inspection chamber 12 is maintained at high vacuum (e.g., 10E-6 Torr). The inspection chamber 12 is also mounted on a vibration isolation system 15 (see Fig. 5) to cancel environmental vibration and other vibrations resulting from movement of the components of the measurement system. Details of the vibration isolation system are not provided because such systems are well known and, further, because it forms no part of the present invention. Since the loadlock chamber is fixed to a support frame 24, a floating coupling 33 is provided between the inspection chamber 12 and the loadlock chamber 14, and a floating coupling 13 (see Fig. 5) is in place between chamber 12 and the pumps, as explained below. Details of the floating coupling 33 are set forth in co-pending application Serial Number 10/007,484 filed November 7, 2001 ~~(Attorney Docket No. 00244/TL)~~ titled "Vibration-Isolating Coupling including an Elastomer Diaphragm for Scanning Electron Microscope and the like". A robotic transfer arm 22 is situated in the inspection chamber 12 and transfers wafers between the loadlock chamber 14 and the measurement portion 18 of the inspection chamber 12.

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Page 9, please amend the paragraph beginning at line 4 as follows:

Loadlock chamber 14 includes one or more pedestals, or paddles, on which wafers 28 are held during transfer of the wafers between the ambient atmosphere and the inspection chamber 12. At least two paddles 26 are typically provided so that as one receives an incoming wafer to be inspected, the other receives an outgoing wafer to be returned for further processing. Therefore, the following discussion will involve the use of two paddles 26a, 26b. For the sake of convenience, both paddles will be referred to below collectively by the numeral 26 unless reference to a particular one of the paddles is necessary.

Page 13, please amend the paragraph beginning at line 13 as follows:

For repressurizing chamber 14, ~~nitogen~~ nitrogen source [[78]] 76 is provided which communicates with diffuser 82 within loadlock chamber 14 via valve 86 and conduits 78, 79. Details of the diffuser will be provided below in ~~connecton~~ connection with an explanation as to why and how it creates a laminar flow. Nitrogen gas is typically used for repressurizing chambers because of its well known advantageous characteristics for this task. Of course, other gases could also be used if preferred.

Page 16, please amend the paragraph beginning at line 8 as follows:

Although the detailed description provided above discusses specific embodiments of the present invention, various modifications thereto will be readily apparent to anyone with ordinary skill in the art. For example, vacuum source 40 can be replaced by communicating the paddles

with the roughing pump 56. In such a case, for some step sequences, the pressure created at openings 38 and applied to the bottom of the wafers may exceed the pressure in chamber 14. If so, a check valve may be needed to prevent the pressure below the wafers from exceeding the pressure in the loadlock chamber 14, or else the wafer would float. Also, stand 29 of the paddles can be horizontal. Also, a turbo pump could be used that need not be coupled to a roughing pump. Also, valve 80 can be separated from chamber 12 by the floating platform 13. Furthermore, a single loadlock chamber is shown and described for use with a single inspection chamber. ~~Can the~~ The invention can be applied in wafer handling and transfer systems including multiple loadlock chambers with a single inspection chamber or multiple loadlock chambers with multiple inspection chambers. One or more of the loadlock chambers in such systems could incorporate any or all of the aspects of the invention disclosed above. Also, conduit 44 leading to openings 38 in paddle 26 can be implemented in many ways. For example, conduit 44 need not be a passage within the paddle. It can be a line running alongside stand 27 of the paddle. In addition, a pressure sensor other than 90 can be used for step 10. Moreover, various designs can be used for diffuser 82. All such modifications are intended to fall within the scope of the present invention as defined by the following claims.